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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,608	09/06/2006	Arnd Ritz	DE040075US1	7788
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EXAMINER				
ROY, SIKHA				
ART UNIT		PAPER NUMBER		
2879				
MAIL DATE		DELIVERY MODE		
12/30/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/598,608

**Applicant(s)**

RITZ, ARND

**Examiner**

Sikha Roy

**Art Unit**

2879

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### **DETAILED ACTION**

The Amendment, filed on September 23, 2009 has been entered and acknowledged by the Examiner.

In light of amendment, the objection to specification and claim 1 has been withdrawn.

Cancellation of claims 4-6 and inclusion of new claims 11-13 have been entered.

Claims 1-3 and 7-13 are pending in the instant application.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The limitation reciting 'multilayer interference filter includes at least one of niobium oxide, hafnium oxide, silicon nitride' is not disclosed in the specification. It was present in the original claim 4.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation of 'the multilayer interference filter shifts a

location of the coldest part' is not clear and hence renders the claim indefinite.

According to claim 1 the multilayer interference filter is provided on a portion of a coldest part, then how does it shift the location of the coldest part?

Proper clarification is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,952,768 to Strok et al., and further in view of USPN 4,734,614 to Kuus.

Regarding claim 1 Strok discloses (Fig. 2 col. 2 lines 35-48 col. 3 lines 16-20 col. 4 lines 7-60) a high pressure discharge lamp comprising a burner 26 which has burner wall 32 and a discharge chamber 34 enclosed by the burner wall wherein a region with a lowest temperature (cold region where metal halides migrate and condense) and a region with highest temperature (hot region) establish themselves at the burner wall during operation and in dependence with mounting position (orientation) of the lamp. Strok further discloses a multilayer interference filter 58 is provided on coldest part of the burner wall where the interference filter 58 reflects towards the discharge chamber mainly light in the wavelength range of infrared light.

Strok does not expressly disclose the multilayer interference filter includes at least one of niobium oxide, hafnium oxide, silicon nitride.

Kuus in same field of endeavor discloses (col. 2 lines 15-53) a discharge lamp having interference filter including niobium pentoxide. Kuus teaches niobium pentoxide does not produce mechanical stress in the filter without changing the optical properties of the filter and hence the filter has high physical and chemical stability.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include in one layer of the multilayer interference filter of Strok niobium pentoxide as disclosed by Kuus for preventing mechanical stress in the filter. Further the Examiner notes that the applicant has not disclosed that including niobium oxide, hafnium oxide, silicon nitride in one layer of the multilayer interference filter solves any stated problem or is for any particular purpose and hence it can be considered as an obvious matter of design choice.

Regarding claim 2 Strok discloses (col. 4 lines 57-65) the one layer has a higher refractive index than a further layer of the multilayer interference filter with having a lower refractive index and wherein a plurality of the one layer and the further layer occurs in alternation.

Claim 7 adds no limitation to claim 1 and hence is rejected for the same reason.

Regarding claim 8 Strok discloses (col. 4 lines 20-25) the material of the burner wall is made of quartz and accordingly the interference filter is capable of reflecting mainly infrared light in the wavelength of 2 micron.

Regarding claim 9 Strok discloses a lighting unit comprising the lamp.

Regarding claim 10 Strok discloses (col. 5 lines 37-42) the lamp used in a projection system (optically controlled) in automotive.

Regarding claim 11, Strok discloses the multilayer coating is heat conserving and imposes additional thermal load at cold regions and hence the portion of the coldest part provided with the multilayer interference filter has higher temperature than the previous coldest spot prior to application of the multilayer interference filter on the portion.

Regarding claim 12 the recitation of 'the multilayer interference filter shifts a location of the coldest part' is a function of the filter. It is the position of the examiner that the subject functional language is intrinsic to the prior art structure as evidenced by the prior art structure's disclosure of all of the claimed structural limitations. Hence the Examiner asserts that the multilayer interference filter of Strok and Kuus is capable of performing the function of shifting the location of the coldest part.

Regarding claim 13 the recitation of 'the multilayer interference filter is configured to lower an operating temperature of the high pressure discharge lamp by approximately 40°K' constitutes a functional language and therefore does not carry any patentable weight. It does not contribute any positive structure to the claimed device.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,952,768 to Strok et al. and USPN 4,734,614 to Kuus as applied to claim 1 above, and further in view of USPN 4,652,789 to Kawakatsu et al.

Regarding claim 3 Strok discloses (col. 4 lines 60-64) the layer having lower refractive index comprises  $\text{SiO}_2$  and the second layer of higher refractive index than  $\text{SiO}_2$  comprises tantalum oxide or titanium oxide.

Strok does not exemplify the layer with high refractive index comprising preferably zirconium oxide ( $\text{ZrO}_2$ ).

Kawakatsu in same field of endeavor discloses (col. 2 lines 28-37) a multilayer infra red reflecting filter composed of plurality of laminated layers in which one layer of high refractive index consisting tantalum oxide, zirconium oxide and the layer with low refractive index consisting of silica.

The selection of known material for a known purpose is considered to be within the skill of the art. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute zirconium oxide for the layer with high refractive index as disclosed by Kawakatsu for tantalum oxide of Strok and Kuus since selecting known material for a known purpose is within the skill of the art.

### ***Response to Arguments***

Applicant's arguments with respect to claim1 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sikha Roy/  
Primary Examiner, Art Unit 2879



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